

August 16, 2004

Mr. Barry S. Drucker
Contracting Officer's Technical Representative
U.S. Department of the Interior - Mineral Management Service
Leasing Division / Sand and Gravel Unit
381 Elden Street, Mail Stop 4010
Herndon, Virginia 20170-4817

Baird

Re: MMS Contract 0103CT71516, Review of Existing & Emerging Environmentally
Friendly Offshore Dredging Technologies

Dear Mr. Drucker:

This letter is our progress report on the project: Review of Existing & Emerging
Environmentally Friendly Offshore Dredging Technologies.

Our activities to date, have concentrated on:

Item 1 Identification, Review, and Analysis of Environmentally-Friendly Technologies

Item 1.1 Literature Reviews

Marine Ecological Surveys (MES) have completed a "Review of Impacts of Marine Aggregate Dredging". This report is extensive (75 pages) and has been distributed and reviewed by the partners. MES has responded to questions relating to their report. Research Planning, Inc. (RPI), has completed their initial review with key stakeholders and experts concerning environmental issues associated with offshore dredging. This information was a prerequisite to developing the questionnaire that was distributed to Dredging Contractors and related industries. RPI also has had several conversations with NMFS, who provided a copy of the Regional Biological Opinion that was recently completed and sent to the Corps of Engineers. This is NMFS' review of the regular maintenance hopper dredging of navigation channels, and the offshore sand mining for beach restoration / nourishment activities, in the U. S. Gulf of Mexico and its effects on sea turtles and sturgeon. There is considerable useful information in this report. Baird and Dredge Research Ltd. (DRL) have performed a literature search. This search reviewed 1300 documents related to environmentally friendly dredging. From this list, 76 reports were selected for further study.

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Item 1.2 Industry Review

Dredging Research Ltd and Baird composed a questionnaire to be sent to dredging companies engaged in aggregate and sand mining in the United States and Worldwide. We contacted the Mineral Industry Research Organisation of the United Kingdom, who agreed to send the questionnaire to its members, who generally work outside of the United States. This questionnaire has been forwarded to you previously. The industry responses were tabulated and compared. The industry, as a whole, had remarkably similar responses to the questions. One European contractor sent us schematic sketches showing equipment modifications on their dredge designed to redirect overflow from over the side of the hopper to under the keel. One U.S. contractor sent many very useful details in addition to answering the questions. Selected contractors were contacted to discuss their answers. Three of the contractor respondents were also invited to attend the Workshop. Two of them were able to send representatives.

Item 1.3 Joint Evaluation of Technologies

After a review of the contractor responses, it was decided to change the format of the planned Workshop. In addition to the Study Partners and MMS, we invited representatives of the Corps of Engineers and responding dredging companies involved in beach nourishment. The workshop was held on April 1st at the Days Hotel in Herndon, Virginia.

This led to a much more productive meeting since both the Corps and the dredging companies were knowledgeable about the topic and had a stake in the decisions to be made. At the Workshop, we were able to get consensus on which of the perceived dredging impacts were not germane to the dredging of clean sand from offshore borrow sites. The Corps of Engineers is currently researching improvements to turtle deflectors and it was concluded that this issue should be left to them. MMS currently has on-going studies relative to potential breaks in active or abandoned pipelines and alteration or destruction of Essential Fish Habitat. MMS has also completed studies on prevention of

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damage to archaeological resources and has developed Physical and Biological Monitoring Protocols for monitoring changes in the bathymetry that can alter the wave climate reaching the shore. The study of conflicts between dredging and the fishing industry is currently under way. The representatives of the dredging industry did not think there were any conflicts that could not be easily resolved with the fishermen. This report will focus on the remaining impacts and methods to mitigate adverse impacts through the use of promising environmentally-friendly equipment technologies and dredging techniques.

The Study Partners have organized the equipment technologies and dredging techniques into a matrix in order to determine which technologies and techniques are appropriate, practical and effective. Filling in this matrix necessitated returning to the literature review to check if there was additional information available where there was a perceived gap in our information.

Item 2 Preparation of the Draft and Final Technical Manuscript

The Study Partners have completed their initial drafts of their portions of the report. The initial drafts are under review and we are assembling the segments into the first full draft.

The project is progressing well but is three to four weeks behind our proposed schedule. We expect to be able to deliver a draft report in late September keeping to the required MMS schedule.

Yours truly,

W.F. Baird & Associates Ltd.



Rob Nairn Ph.D., P.Eng.
Principal

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Our File No. 10687